sembling itself; and to attach these new-formed duplicates of itself to itself until the time for mitosis arrives.

If it be said that it is a chemical radicle which works in this way, rather than the whole molecule, the difficulty, the undescribed step, is still there—namely, the formation under the influence of the radicle of a new and entirely similar radicle out of the unlike chemicals present in the plasma.

All we hear in explanation of this first and simplest problem of heredity is the blessed word ' assimilation '. Assimilation, we are told, is one of the fundamental properties of living matter; and we are invited, with ample lack of logic, to regard it as perfectly intelligible because it is universal in living things; perhaps with some suggestion that it is analogous to the process of assimilation by which a crystal grows larger. But, as we have seen, the two processes are radically different; the suggested analogy is a very questionable one, and illuminates organic assimilation not at all.[1]

Let us pass over this first difficulty, and assume the power of assimilation, of formation of new molecules similar to the gene A to the number required to furnish both eyes with the normal quantity of pigment. We have then the problem: How are these molecules eventually assembled at the two places where they are required, the

^ * Goldschmidt, who inclines to regard each chromosome as a single ^molecule *(loc.* at), somewhat airily recognizes that it is, on this view, necessary to postulate, as a property of each chromosome, c the ability of the chrpmsome to reproduce its own image by division or by re-creation of its likeness'. It is

important that he as a geneticist should thus recognize this fundamental problem; but it is necessary to insist that the problem is not solved by attributing to the chromosome the ability to c^ate f? . ?Wy complex entity exactly similar to itself. That after all is just the problem of heredity.